Request for Proposal (RFP)
for
Solar Subscriber Project
(W.O. J0B74)
Exhibit 2

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A. PROJECT SCOPE OF WORK

The primary scope of work for the Solar Subscriber Project includes the engineering, procurement and installation of a solar photovoltaic panel array to produce the following objectives:

- Maximize power capacity with a 1,000-kW AC minimum requirement given the site location boundaries and topographical restrictions

The Project location is known as the Lambert Airport, Missouri Bottom Site. The approximate address is 11519 Missouri Bottom Road, Bridgeton, Missouri 63044. An overhead view and topographical map has been included as Exhibit 2A.

B. PROJECT SPECIFICATION

B.1 Detailed Scope of Work

As listed in Section A, the scope of work for this project is to engineer, procure, install and commission an integrated solar generation array.

For the purpose of this Project, Contractor shall procure and install data acquisition and storage equipment for operating conditions of the solar PV array. This equipment shall aggregate available data for Ameren Missouri's use on its network infrastructure. Physical communication infrastructure shall support either Cat5e/Cat6 STP copper or single mode fiber connecting to an Ameren Missouri provided Local Area Network and shall integrate with standard TCP/IP stack protocols including Ethernet, IP TCP, UDP and MPLS. Fiber cable shall be single mode cable rated for outdoor use. Cellular wireless communication technology may also be utilized to maintain cost control, if available. Any connection to Ameren Missouri's network infrastructure is subject to a full cyber security review.

The following data collection points shall be monitored by the SCADA system:

- Inverters (procured by Contractor)
  - AC Voltage
  - DC Voltage
  - AC Current
  - DC current (may be multiple values)
  - Kilowatt
  - Kilowatt-hour
  - Photovoltaic (PV) module temperature

Contractor shall complete all engineering and planning. Engineering and design shall follow the latest approved National Fire Protection Association (NFPA) 70 – National Electric Code standards. Engineering shall include, without limitation, the following activities:

- Conduct 100% Design Review with Owner to review all design details, drawings and plans completed. Meeting shall include Contractor's engineering and construction team along with Ameren Missouri's project team. Meeting will be held at an Ameren Missouri office.

Contractor shall prepare and submit drawings and documents to Ameren Missouri necessary for full review of the equipment and installation. All equipment submittals from vendors and manufacturers shall be submitted to Ameren Missouri as Foreign Print Manuals or Foreign Print Drawings per Ameren Missouri Drafting Specification, Exhibit 2C. Drawings shall be submitted in AutoCAD native file format. These drawings and documents shall include, but shall not be limited, to the following:

- General site plans
- Foundation drawings

- Electrical one-lines
- Electrical wiring diagrams
- Electrical schematic diagrams
- Cable and conduit layouts
- Grounding plan layouts
- Communication diagrams
- Spare parts list

Contractor shall be responsible for all required Project permitting. Permitting may include, but is not limited to, air, water, land disturbance and zoning, as well as any other applicable permits required by the City of Bridgeton, Missouri or the State of Missouri.

Contractor shall procure and install solar PV array equipment with the following minimum requirements:

- 1,000 kilowatts-AC minimum
- Monocrystalline-Silicon, Polycrystalline-Silicon or Cadmium-Telluride panels
- Available site area: approximately twelve (12) acres
- Solar panels shall be fixed mount and oriented to produce maximum yearly energy output.
- Inverters shall be sized to maximize efficiency of the site energy production.
- Combiner boxes shall be fused with finger-safe terminal blocks and fuse blocks.
- Solar panel racking design shall include wire management system that shall mitigate all wire and cable cuts, nicks and fraying due to normal operation after project is in service.
- Solar panel racking design shall include varmint prevention such as screens or enclosures to deter all nuisance varmints from interfering with installation and on-going equipment operation.
- All outdoor equipment shall be NEMA 3R rated, at a minimum.

Contractor shall procure and install electrical equipment with the following minimum requirements:

- The electrical equipment shall be rated for the proper voltage and current output of all generation.
- Electrical switchgear shall interface with Ameren Missouri's 12-kV electrical distribution system. This point of common coupling (PCC) shall be determined by Ameren Missouri.

Contractor shall procure and install all materials to complete the above objectives including, but not limited to:

- Cables: power, grounding, control and instrumentation
- Equipment racking and supports
- Miscellaneous hardware for connection and securing equipment
- Special tools and instruments to install, test and commission equipment

Contractor shall provide fencing around the entire site with the following requirements:

- All fencing shall be galvanized material.
- Two site entry gates, manually opened. Gates shall be ten (10) feet wide, at a minimum. Locations to be determined by Ameren Missouri.
- Two-inch mesh fencing. Fencing shall be eight (8) feet tall with concrete footings at each fence post.
- Three-strand barbed wire shall be affixed at the top of the entire site fence, including entry gates.
- Fencing shall be installed prior to site delivery of solar PV panels and major equipment.

All construction shall follow NFPA 70 – National Electric Code standards. Ground-mount solar PV racking system shall be designed and constructed for typical wind and snow loading for the

location specified. Contractor construction labor shall follow the National Maintenance Agreement (NMA). All labor tasks and activity responsibilities shall fall under these guidelines.

During construction, Contractor is required to follow Ameren Missouri's Rules to Live By. Employees and contractors found to be in violation of these rules will receive appropriate disciplinary action. These rules are as follows:

- Fall Protection – Failure to use proper fall protection when there is a risk of a fall that is greater than 6 feet.
- WPA (Lock Out / Tag Out) – Violation of a tag, lock or tag-out device that is used for employee protection.
- Electrical Safety – Failure to follow the proper procedures and wear proper personal protective equipment when working on energized equipment.
- Confined Space Entry – Failure to evaluate a confined space and perform air monitoring checks prior to entry.
- Rigging / Hoisting – Walking or working under a suspended load.
- Trenching and Shoring – Entering an excavation greater than 5 feet deep that has not been properly sloped or shored.

The Ameren Missouri Power Operations – Rules to Live By document is included as Exhibit 2B.

All equipment shall be fully tested at the factory and field tested to ensure it is fully functional per manufacturer's instructions.

Contractor is responsible for all aspects of testing, commissioning and startup prior to turnover of the Project to Ameren Missouri. Contractor shall supply commissioning, testing and startup plan no later than thirty (30) days prior to planned execution.

Contractor shall provide both hands-on operator training for Ameren Missouri technicians during start-up. Ameren Missouri shall have the right to videotape training sessions for Company use.

- Field training shall be designed to provide instruction on health and safety, equipment operation, Project Site design and layout (as built) and all other topics specific to the Project Site. Field training shall be provided for up to ten people in one scheduled training session. Ameren Missouri shall have the right to reproduce all training materials at its own cost, solely for the use of Company's employees.

Contractor shall follow performance guarantees per Exhibit 2D – Performance Standards and Liquidated Damages.

Contractor shall pass all equipment warranties to Ameren Missouri. Contractor shall also supply a one-year warranty for all parts and labor for the remainder of the site installation.

C. APPROVED SUPPLIER/SUBCONTRACTOR LIST

- Solar Panels
  - Tier 1 Panel Manufacturers
- Solar Panel Racking
  - Meets UL 2703 Standard
- Inverters
  - ABB
  - Eaton
  - Power One
  - Schneider Electric
  - SMA

Any vendor or subcontractor not on this list shall be submitted to Ameren Missouri for qualification, together with such quality and safety information with respect to such subcontractor or vendor as Ameren Missouri may reasonably request, prior to bid submittal.